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Internet Use Policies and Implications for Health Education: A Survey of Nebraska School Board Presidents

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Abstract

The purpose of this study was to determine the attitudes and practices of school board presidents in Nebraska pertaining to Internet use policy-making and its implications on health education. This study utilized a mailed written survey. The data indicated that public school policy makers have significantly different perceptions of health education than of specific selected health education components, i.e., they are not very concerned about access to Internet health education information in general, but they are very concerned about specific areas of health education. Specifically, board presidents were most concerned about access to information about Internet sexuality followed by drug information, information concerning violence and commercial information, respectively.

Introduction

The Internet will likely have a major impact on how health educators facilitate learning (Daniel & Balog, 1997). The Internet provides a vast amount of information that can be solicited with just a click of a button. The accessibility and ease of Internet use has encouraged a proliferation of resources related to health, and the amount of information available has propelled the Internet as an information tool for health educators (Kotecki & Siegel, 1998).

The general use of the Internet within education is growing rapidly. A recent survey conducted by Quality Education Data indicated that 95% of America's public schools were now connected to the Internet (2000), with projections that access will rise to over 99% very soon. Teachers across the nation seem to be generally embracing Internet usage, and an extensive national survey conducted by NetDay (2001), an educational technology nonprofit agency, found that more than 84% of the teachers surveyed believed that the use of the Internet improves the quality of education within their schools. Teachers are also seeing the Internet as an important resource for helping schools to meet new standards, an important national focus, with 75% of the teachers surveyed by NetDay saying that the Internet is an important tool for finding new resources for helping address national standards.

Within the state of Nebraska, the use of the Internet by teachers is particularly strong. A statewide survey of 3100 teachers indicated that more than 99% of the schools were already connected to the Internet, and that 89% of the teachers surveyed considered such school

access to be "convenient" for the learning process (Topp & Grandgenett, 2001). More than 92% of the teachers surveyed also believe that Internet technology greatly contributes to the learning process within their classrooms. This strong and ongoing endorsement by Nebraska's teachers related to the educational use of the Internet has encouraged the development of a strong statewide plan for maintaining this important resource within Nebraska education (Nebraska Information Technology Commission, 2000).

Public schools utilize the Internet for health education mainly as an information retrieval tool (Kotecki & Siegel, 1998, Daniel & Balog, 1997). Estimations in 1997 revealed that the amount of health related web sites exceeded 10,000 (Kotecki & Siegel, 1997) and the information is easily accessible, thus providing health educators and their students with quick information. This information may be utilized in the classroom in the form of graphics, web assignments, communication media, and distance learning (Daniel & Balog, 1997). By now the numbers health-related web sites have proliferated even more.

The vast amount of health information found via the Internet allows teachers and students to access virtually unlimited amounts of data, graphics, videos, audio and information about health topics and organizations. Much of this information may prove unreliable (Daniel & Balog, 1997). "Anyone can, intentionally or unintentionally, publish biased and unscientific health information," (Kotecki & Siegel, 1998). Because of rampant online misinformation the Centers for Disease Control and Prevention has posted a site about current health related hoaxes and rumors (CDC, 2001).

This raises the question: How does one minimize the retrieval of biased and unscientific health information? In past decades, health professionals could rely on the editors and reviewers of scientific journals and textbooks to verify the scientific health information to be read in school texts, videos, and classroom activities. The Internet is much more informal and therefore more subject to abuse.

Use of the Internet does not alarm parents, teachers, and administrators but abuse does. Forty-one percent of the principals in Nebraska expressed concern about student access (via the Internet) to inappropriate material in the classroom (Topp et al, 1998). Abuse of the Internet in public school settings includes such behaviors as intentional viewing and or downloading objectionable material relating to human sexuality, violence, drugs and an undue influence of commercialism. One study indicated that 63% of the 1,556 most compatible web pages were classified as pornography. "Students, however, found information on condom use and STD symptoms in an average of four minutes, using fewer than six clicks and two searches." (Smith, Gertz, Alvarez & Lurie, 2000).

Schools have the responsibility to decree which form(s) of Internet monitoring they feel will most effectively fulfill their goals and concerns regarding the Internet. Regardless of the manner in which this is attempted, there is potential for abuse.

There are legitimate concerns of students accidentally happening upon unsuitable or inappropriate materials. Imagine the user wanting information on breast cancer and instead finding a plethora of undesirable web sites. Imagine a young student wanting to find out how beavers construct their dams who is instead directed to a pornography site. The list goes on and on with examples of innocent users happening upon unwanted material (Haycock, 1998). On the other hand, what happens when filters block Internet information? One filter blocked a California web server based on the advertisement it carried. Another program blocked all sites containing a tilde (~) because these are often associated with personal web pages (Johnson, 1998). This over reaction has the potential to greatly limit the search ability of the student based solely on unrelated issues. Many Internet filter programs are promoted and supported by fundamentalist family groups. Therefore, it may not be surprising that sites such as: The National Organization of Women, gay and lesbian support information, drug and alcohol groups, and animal rights groups were in the list of objectionable material (Johnson, 1998).

This type of information limitation poses a threat for health education. Much of the inappropriate material educators want to avoid deals with topics related to health education. The Internet is going to have a major impact on sexuality, as we know it. But there is little empirical evidence on what is going on (Cooper, 1999). Human sexuality, drugs, commercial content and violence are all subjects that have the potential to be considered inappropriate material. Likewise, the information found on the Internet with respect to human sexuality, drugs and violence can be utilized to enhance the learning of students in the classroom, and many of the existing Internet use policies minimize the retrieval potential of that information (Johnson, 1998). What would happen if a student wanted to learn the signs and risk factors associated with testicular cancer or breast cancer? If Internet filters have words like penis, breast, vagina, and sex in the predetermined list of objectionable terms, how is a student able to solicit educational material?

The Internet also allows students to acquire information via a non-threatening medium. Students may feel much more comfortable looking up information dealing with STDs, contraceptive methods, and the birthing process from a non-threatening source than from an adult in the classroom. The problem is that this type of information retrieval would be greatly limited by the Internet filter. Thus, if students are not able to acquire information from the Internet and they are not comfortable in asking a health educator, what avenues are left? The problem becomes apparent that Internet filters can potentially alter the facilitation of health education courses in the classroom.

Commercialism in the public schools has become a heated debate. The issues of funding and advertising-free environments have fueled the debate (Sandham, 1997, Chester, 1999). The examples of commercialism, in the public schools, most likely to have been mentioned in the public have been "Channel One," corporate sponsorships, and in-school ads. "Channel One" is a 12-minute daily news show targeted for students in grades 6-12 that includes two minutes of advertising for products such as jeans and soft drinks. Therefore, the debate is whether or not public schools should allow the advertising in the public school setting. In-schools ads are becoming more popular. These include such forms as billboards, advertising on gymnasium floors, school bus banners, book covers and product coupons distributed in schools (Aidman, 1995).

The nature of the Internet allows for product/service promotion to be viewed by the students in the classroom. This is true no matter what web page is being viewed. The public has pushed for school districts to become connected to the Internet in order to provide the “needed” education to their students, but have they contemplated the consequences of that change? Some advertisers have exploited the weaknesses of children. “Advertising at its best is making people feel that without their product, you’re a loser. Kids are very sensitive to that. You open up emotional vulnerabilities” (Nader, 1999). On the other hand, health education has a plethora of “reputable” sites that can be used in the classroom. These sites also have advertisements from drug, fitness and medical companies promoting their products. This may give the impression that these products are “better” than others or are being endorsed by the web site.

The Internet possesses the ability for the child to provide personal information and engage in one-on-one communication. This makes it different from other conventional forms of media and therefore, calls for specific policies and safeguards to protect the school children (Chester, 1999). The Internet use policies utilized by school districts will need to address the issues of commercialism and to what degree Internet advertising will affect the use of the Internet in the classroom.

In addition to concerns about accuracy of Internet information, there are concerns about abuse and misuse. The intentional solicitation of objectionable material is considered abuse, while the unintentional solicitation of objectionable material is considered misuse. Due to this increased concern about abuse, policies and procedures have been implemented in public schools to minimize the abuse of the Internet. But these policies and procedures have the great potential to limit and/or block much of the health education information on the Internet.

The use of the Internet for health education purposes is vast and allows students to access almost limitless amounts of health information. This medium of health information retrieval can greatly be altered by the selection of an Internet use policy. Much of the material that decision-makers are looking to avoid or minimize relates to health education. Thus, it is important to understand the perceived negative consequences of the use of the Internet. Likewise, it is important to understand the rationale by which policies were formulated.

Nebraska serves as an ideal forum for Internet policy and health education research because of the high percentage of Internet use and the high percentage of public schools connected to the Internet. Nebraska usually ranks as one of the top states in Internet-connected schools and Internet use in the public schools (Education Week, 1999). Educators in the state of Nebraska pride themselves in striving to meet the technological needs of students in order for them to be contributing and healthy members of society. Furthermore, in the remote rural areas of Nebraska, the Internet is an effective tool for keeping the students current. These are great goals, but the two main reasons that teachers do not use the Internet, according to Topp, Grandgenett, Ostler, & Mortenson (1998), are because students may retrieve inappropriate material and/or there may be an incomplete or evolving school district policy on student Internet use.

The purpose of this study was to determine the attitudes and practices of school board presidents pertaining to Internet use policy-making and its implications on health education in Nebraska. Additionally, we wished to answer the question: are selected health education topics a major concern in establishing Internet Use Policies, and how do board presidents view health education vis a vis the topics of sexuality, drugs, violence and commercialism?

Procedures

Population and Sampling Procedure

A sample of the population was selected to receive the mailed questionnaire by selecting the president of each of the 604 school districts in Nebraska. Recommendations from a systematic mailed survey approach was employed to increase the response rate (Aday, 1996). A cover letter accompanied each of the mailed questionnaires along with a self-addressed stamped envelope. Two weeks following the initial mailing, a reminder card was sent to all Nebraska school board presidents thanking those who had responded and reminding the others to do so. No follow-up phone calls were possible due to unavailable phone numbers.

A chi-square analysis was performed to determine first time versus second time responder bias. The analysis compared those respondents who returned the questionnaire before the reminder cards were received (n=83) (categorized as first time responders) and those who returned the questionnaire after the reminder cards were received (n=52) (categorized as second time responders) a method derived from the work of Little

and Rubin (1987) and Oh and Schuren (1983). This is based on the assumption that the second time responders share the characteristics with the non responders and therefore, if no differences are found in the study variables between first time responders and second time responders and the data is normally distributed, one can assume that the first time responders and non-responders were similar in characteristics and that the non-response bias may be minimal. Of course, this is not a perfect method but given the simplicity of this study, these assumptions were made. The overall response rate of 22% is not high but is also not unusual in survey research of this type where busy elected officials are surveyed.

Eighteen of the 20 variables resulted in no significant difference between the two groups. Therefore, the first and second time responders were essentially the same. Thus, the assumption was made that first time and non-responders were similar in characteristics.

Instrument

The questionnaire consisted of 36 items, which were broken down into four sections. The first three sections (items 1-21) were variables relating to the Internet and health education. The respondents were asked to select their responses on a five-point Likert scale. The fourth section (items 22-36) asked the respondent to provide demographic information. The instrument was circulated to a panel of judges to determine if questions solicited that which they were supposed to solicit. A three round process was used (Maxim, 1999). This three round process was done throughout the writing of the instrument. The instrument was also piloted to aid in the refinement (face and content validity) of the instrument. For pilot testing forty questionnaires were mailed to every fifteenth board secretary from the list of 604 Nebraska school board secretaries. The surveys were modified in response to the suggestions offered by the respondents to the pilot survey.

Data Analyses

Percentages and cross tabulations were used to summarize the results. Chi-square analyses were performed on the four selected health education variables (sexual content, drug content, violence-related material and commercial content). Chi-square analyses were also performed to determine if the selected health education variables were significantly different in the perception regarding the need to control that variable with an Internet use policy.

Results

The four specific health education components assessed in this study were sexual content, violence-related material, drug content and commercial content. Ninety-one and one-tenth percent of the respondents (91.1%) percent reported that it is "very" or "extremely important" for the Internet policy to regulate sexual content, while 88.9 percent reported that it was "very or "extremely important" for the Internet policy to regulate violence-related content. Drug and commercial content were also perceived as important variables to regulate with 75.5 and 60 percent reporting "extremely" and "very important" respectively. (Table 1).

Chi-square analyses were performed on the four (sexual content, drug content, violence-related material and commercial content) selected health education variables relative to the perceived importance on the question related to limiting "health education content," on the Internet. Three of the four health education variables were significantly different from the perceived importance of limiting "health education content," per se, on the Internet. Table 2 summarizes the results of the chi-square test on the four health education variables. The total number of responses does not equal 135 due to one non-responder. The chi-square for the general question about "health education content" and sexual content was 26.45 with a *p*-value of 0.04. Violence and "health education" in general revealed a chi-square of 36.78 with a *p*-value of 0.002. The drug content and "health education content" chi-square was 23.75 with a *p*-value of 0.09 and for commercial content chi-square was 26.91 with a *p*-value of 0.04. In other words, school board presidents did not perceive regulating "health education" per se as important as they perceived the need to regulate the topics of sexuality, drugs, violence and commercialism, which, of course, are components of health education.

Table 3 illustrates the chi-square analyses that were performed on the four selected health education variables. All four variables were significantly different from the others with a *p*-value < 0.001. Table 3 summarizes the chi-square values of the four health education components. Sexual content was significantly different in the reported perceived importance for Internet regulation than the other three variables. Likewise, drug content was significantly different than the other three health education components. In addition violence-related material and commercial content were also significantly different than the other three health education variables with *p*-values < 0.001.

Table 1. Summary Table of the Perceived Importance for Internet Regulation of the Selected Health Education Variables as Reported by Nebraska School Board Presidents (n=135).

Variable	(n)	Extremely Important (Percent)	Very Important (Percent)	Moderately Important (Percent)	Of Little Importance (Percent)	Unimportant (Percent)
Sexual Content	135	63.7	27.4	5.2	1.5	2.2
Violence Material	135	53.3	35.6	6.7	1.5	3.0
Drug material	135	40.7	34.8	20.0	1.5	3.0
Commercial Content	135	25.9	34.1	31.9	5.9	2.2

This study indicated that school board presidents are concerned about regulating specific health education topics on the Internet such as sexual content, drug content, violence related material, and commercial content. Each of the four specific health education questions asked had a range of 0-4 with zero indicating that the importance of regulating that specific health education component is unimportant. A number four indicates extreme importance for the Internet use policy to regulate that health education component. All four mean scores are greater than 2.76 units, which represents at a perception of importance that they should be regulated. Sexual content had the highest mean score at 3.49 units. Sexual content was followed by violence-related material with 3.35 units mean. Drug material and commercial content followed respectively with 3.09 and 2.76 units as the means.

Only nine percent of the school board presidents respondents reported that health education issues were discussed, to a "considerable extent", in the policy development stages and zero percent reported discussing health education issues to a "great extent." Slightly over 30 percent reported that health education topics were not discussed at all. When asked, how important is it that the Internet policy complements health education, only 30.3 reported "very" or "extremely important". But when specific health education components (i.e. sexual content, drug content, etc.) were rated, it was more likely to be perceived as "extremely important".

Discussion

This study demonstrates that sexual content was perceived as the most important health education component to control via an Internet use policy among the school board president respondents. This may be explained by the perceived threat that may exist of the large number of web sites related to sexual content found on the Internet. Many of the national Internet regulation debates studied in the review of literature cited sexual content as examples of abuse. Parents, teachers and public librarians expressed concern relating to sexual content. In addition, sexual material may be viewed by many people as more graphic or visual than the other three selected health education components, thus posing more of a threat to students in the classroom. Another example of the concern about sexual material is the Children's Internet Protection Act, which is being proposed in Congress and would require all public libraries receiving federal funds to install content filters on all computers with Internet access. (Children's Internet Protection Act, 2000).

The school board presidents perceived that selected health education components are necessary to control via an Internet use policy. Commercial content was perceived, of the four selected variables, as the least important to control. Commercial content in the public schools has been a topic of major debate in the past several years (Aidman, 1995). This finding that commercialism was less important to monitor was surprising due to the many efforts to eliminate

Table 2. A Chi-square Analyses Summary of the Health Education Variables Compared to the Perceived Importance of Not Limiting "Health Education Content" in General on the Internet as Reported by the Nebraska School Board Presidents (n=134).

Variable	(n)	df	P ²	p-value
Sexual content	134	16	26.45	0.04
Violence material	134	16	36.78	0.002
Drug material	134	16	23.75	0.09
Commercial content	134	16	26.91	0.04

Note: Actual responses do not equal 135 due to one non-responder.

commercialism in the public schools. Many web sites have advertisements that are sponsored by large corporate entities that are promoting a certain product and directly aimed at school aged children (Aidman, 1995). These types of advertisements would not be allowed in the hallways or on the side of a school bus, but they do exist on web sites.

Due to consumer pressure, the Coca-Cola Company recently announced that it is scaling back its aggressive marketing strategies in schools. The Center for Commercial-Free Public Education and other critics have long been worried that commercialism in schools plays on the vulnerabilities of schools where budgets are stretched thin, so schools are tempted to sign

Table 3. Chi-square Analyses of the Selected Health Education Components Compared to Each Other with 16 df and a p-value < 0.001, As Reported by the Nebraska School Board Presidents (n=134).

Selected Health Education Variables	Drug	Violence	Commercial
	(P ²)	(P ²)	(P ²)
Sexual content	80.40	80.41	73.96
Drug content	---	115.61	123.55
Violence-Related Material	---	---	66.93

exclusive contracts with Coke or Pepsi to help earn money for the school (Zernike, 2001). Perhaps the school board presidents are unaware of the commercialism debates that are currently raging.

The present study suggests that the school board presidents are not clear of what constitutes health education. Sexual content, drug content, violence related material and commercial content are perceived as "important" to "extremely important" issues to control in the public schools, but "health education," in

general, is not perceived as being very important. These four components in this study do, however, constitute important aspects of health education in the public schools.

Nebraska school board presidents failed to adequately discuss the selected health education components in their school board meetings. Consequently, the potential consequences that the Internet use policy could have on health education was not taken into consideration. Only 7.5 percent of the

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school board presidents reported having discussed, to a considerable extent, the potential impact the Internet policy could have on information retrieval while 38.3 percent reported that it was “not discussed at all”. Much of the “inappropriate” material that Internet policies attempt to control deals with health education. Sexual content, drug content, commercial content and violence-related material are all subjects that have potential to be considered inappropriate material. Likewise, the information found on the Internet with respect to human sexuality, drug content, commercial content and violence-related material can be utilized to enhance the learning of students in the classroom, but many of the existing Internet use policies minimize the retrieval potential of that information (Johnson, 1998). Many of the school board presidents seemed to lack a perspective regarding the relationship between Internet use policy that does not complement health education versus the necessity for students to have access to reputable health information. Again, when the school board presidents were asked how important it was that the Internet policy complements health education, only 30.3 reported “very” or “extremely important”. This strengthens the belief that the school board presidents were not clear what constitutes health education. It is obvious that there is a need for school officials to strike a balance between making reputable health education available and controlling access to what is considered to be inappropriate material.

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